Paper No. 16

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KEITH M. HINES

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Appeal No. 95-0323
Application 08/051,928[1]

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ON BRIEF

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Before THOMAS, JERRY SMITH, and BARRETT, Administrative Patent Judges

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-14. Claims 15-20 were indicated by the examiner as being allowed. An

[1] Application for patent filed April 26, 1993.

amendment after

final rejection was filed on March 4, 1994, and was entered by the examiner. This amendment cancelled claims 11-14. Accordingly, this appeal is directed to the rejection of claims 1-10.

The disclosed invention pertains to a method and apparatus for selection of random values from a set of N non-sequential values. The invention has application in a wide variety of areas in which it is necessary or desirable to generate random or pseudorandom values. The invention of independent claim 1 is directed to the method for selecting pseudorandom values in a computer to generate frequencies for hopping in a frequency hopping radio.

Independent claim 1 on appeal is reproduced as follows:

1. A method for the selection of pseudorandom values in a computer to generate frequencies for hopping in a frequency hopping radio, the method comprising the steps of:

providing a set of values numbering N;

sorting the set of values from smallest value to largest value;

creating a blank information pool from the N values;

initializing local variables for tracking the information pool;

processing a current value from a first value of the set of values;

calculating a difference between a next value of the set of values and the current value;

comparing the difference to a current information pool entry difference associated with a current information pool entry;

incrementing a range increment of the current information pool entry if the difference equals the current information pool entry difference;

creating a new information pool entry if the difference does not equal the current information pool entry difference;

storing the information pool; and

generating a frequency output using the information pool.

The examiner relies on no references.

Claims 1-10 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter in the form of a mathematical algorithm. Rejections of claims 11-14 under 35 U.S.C. § 112 have become moot in view of the cancellation of these claims.

Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answers for

the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner, and the reasons relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answers.

It is our view, after consideration of the record before us, that claims 1-10 are directed to statutory subject matter within the meaning of 35 U.S.C. § 101. Accordingly, we reverse.

With respect to the rejection of the claims under 35 U.S.C.
§ 101 as being directed to nonstatutory subject matter in the form of a mathematical algorithm, the original brief and the examiner's answer were filed in the middle of 1994. The Board remanded this case to the examiner in 1995 for consideration of the applicability of the Commissioner's published

"Examination Guidelines for Computer-Implemented Inventions." On remand, the examiner determined that the rejection under 35 U.S.C. § 101 was still proper, and the case is now before us for decision on the merits.

The examiner's rejection applies the two-step test which is now commonly referred to as the Freeman-Walter-Abele test. See

In re Freeman, 573 F.2d 1237, 197 USPQ 464 (CCPA 1978) as modified by In re Walter, 618 F.2d 758, 205 USPQ 397 (CCPA 1980). The test has been thus articulated:

> First, the claim is analyzed to determine whether a mathematical algorithm is directly or indirectly recited. Next, if a mathematical algorithm is found, the claim as a whole is further analyzed to determine whether the algorithm is "applied in any manner to physical elements or process steps," and, if it is, it "passes muster under § 101."

In re Pardo, 684 F.2d 912, 915, 214 USPQ 673, 675-76 (CCPA 1982)

(citing In re Abele, 684 F.2d 902, 214 USPQ 682 (CCPA 1982)). The examiner's application of the Freeman-Walter-Abele test led the examiner to conclude that claims 1-10 were directed to

nothing more than a mathematical algorithm. Appellant argues that the "generating a frequency output" step of claim 1 is a significant and essential post-solution activity.

Although the examiner applied the Freeman-Walter-Abele test in a manner which was consistent with the law at that time, the most recent decisions of the Court of Appeals for the Federal Circuit cast substantial doubt on the propriety of this test.

It is the current view of the court that unpatentable mathematical algorithms are identifiable by showing that they are merely abstract ideas constituting disembodied concepts or truths that are not "useful." From a practical standpoint, this means that to be patentable, an algorithm must be applied in a "useful"

way. See State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998).

Independent claim 1 is directed to a method for storing an information pool of random values and for generating a frequency output using this information pool. The values of

the information pool are determined by a process of manipulating N values in an original set into pool entry values which are related in the desired random manner. These random values in the information pool are then used to generate actual frequency outputs. We are of the view that the step of generating frequency outputs for hopping in a frequency hopping radio clearly has practical utility. Even if the "mathematical algorithm" by which the values in the information pool are determined can be considered an abstract idea, that abstract idea is clearly employed in a useful way. The invention of claim 1 is not directed to the mere computation of values which form the information pool, but rather, to the physical and useful step of using these values to generate a frequency output which is used for hopping in a frequency hopping radio. Since the claimed invention has practical application for the reasons just discussed, we do not sustain the rejection of independent claim 1

under 35 U.S.C. § 101. Since claims 2-10 depend from claim 1, we also do not sustain the rejection of these claims.

The decision of the examiner rejecting claims 1-10 is

reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
JERRY SMITH Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
LEE E. BARRETT Administrative Patent Judge	)	

JS/cam

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